The Little Bent-wing Bat *Miniopterus australis* roosting in a tree hollow

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The Little Bent-wing Bat *Miniopterus australis* is regarded as a cave-dwelling species, roosting in caves, abandoned mines, tunnels, stormwater drains and occasionally buildings (Hall and Richards 1979; Dwyer 1968, 1983). The few documented maternity sites are normally situated in limestone cave systems (Dwyer 1983). A study by Hulm (1994) of *M. australis* roost sites in the Richmond River valley in northeastern New South Wales also located individuals roosting in banana bushes in a banana plantation.

This note describes the occurrence of *M. australis* roosting in a hollowed-out Soapy Box *Citronella moorei* in the Culmaran Creek Valley, Richmond Range State Forest, northeastern New South Wales (28°49'S, 152°44'E). The site was located on an upper slope with a north-west aspect in complex notophyll vine forest (Webb 1978) on 12 November 1995. The hollowed-out Soapy Box was a canopy tree approximately 30 m high with a DBH of 171 cm (this was approximate due to pronounced buttressing). Bats were first located in this tree by the tell-tale presence of scats at the base of the hollowed-out centre. On investigation approximately 30 individuals were located roosting in a crevice on the inside of the hollowed-out centre, approximately 2.4 m above the entrance. In order to minimize disturbance only three of the readily accessible individuals were captured to determine the sex; all were males. The entrance to the hollowed-out centre of the tree was 2.6 m above the ground, 49 cm wide and 62 cm at the highest point. The distance to the nearest foliage from the entrance was 2.4 m and to the nearest trunk was 1.8 m. Such a gap between the entrance of the hollow and the nearest vegetation would allow the bats ready access. The relative humidity inside the hollowed-out trunk was 81% (immediately outside: 72%) and the temperature inside was 21.2°C (immediately outside: 24.4°C).

This observation appears to be the first record of the species using tree hollows. A number of species of snakes are frequently encountered inside hollowed-out trees in the rainforest in this site, including the Carpet Python *Morelia spilota*, Brown Tree Snake *Boiga irrregularis* and occasionally the Stephen's Banded Snake *Hoplocephalus stephensii*. In addition, the Lace Monitor *Varanus varius* is a common species in the area. The Little Bent-wing Bat roosting in such a situation would be exposed to potential predation from these species.

The site has not been subsequently revisited to see whether *M. australis* regularly roosts in this hollowed-out tree. However, judging by the small amount of guano at the base of the hollowed-out centre it was considered that this site is only used occasionally by a small number of individuals.

The usage of tree hollows is of potential significance to the management of this species in production forests in New South Wales. Currently, it is accepted that if no cave/disused mine roosts are known from a proposed logging coupe the species will not be adversely affected apart from the loss of foraging habitat. However, the location of *M. australis* in a tree hollow indicates that timber harvesting and land clearance may also affect roost sites at certain times of the year. Hence it is considered important that the frequency of tree hollow usage by *M. australis* at different times of the year be investigated.

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